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# Selecting Slow Cookers

There has been much recent interest in the slow-cooking method of food preparation, especially during these days of energy uncertainties. Slow cooking combines old-fashioned principles with new technology which can help add a relaxed and satisfying dimension to otherwise hectic meal preparation.

## General Considerations

Slow cookers available on the market vary widely in design and price. Consider the following items when selecting an electric slow cooker.

**SAFETY FEATURES** — Be sure the appliance has the Underwriters Laboratories (UL) certification seal. This seal indicates that the appliance meets the safety standards of the Underwriters Laboratories.

The pot should have heat-resistant handles and legs. The handles should be wide and deep enough to move the appliance easily and safely, especially when it is hot. One inch wide and one and one-half inches long is the minimum recommendation.

The exterior of the pot must remain cool or be far enough from the table surface to create no overheating problem; a clearance of at least one-half inch is recommended. For additional protection, use an asbestos mat under the slow cooker.

**HEATING SYSTEMS** — Two types are used in slow cookers: sidewall or wrap-around and base heat.

Sidewall heating provides a more indirect heating action and reduces the need to stir. However, foods do not brown. Sidewrapped heating element pots should have contents placed as far up as the elements to provide good heat transfer. You can identify where the heating elements are placed by rubbing the inside of the cooker with shortening, coating with flour and heating until a scorch pattern develops.

Base heat requires periodic stirring to prevent scorching on the bottom and will provide browning capabilities if the wattage is sufficiently high (800 watts for a 7- to 9-inch diameter vessel).

**VESSEL MATERIALS** — A slow cooker should heat quickly, hold heat well, provide no taste reaction with foods and clean easily. No one material can do all of these things.

Heat-resistant ceramics, glassware and porcelain enamel on steel help retain the natural flavor and juices of food and are good insulators of heat. However, they are not good

conductors of heat and take longer to heat up to safe cooking temperatures. They also are vulnerable to damage from sudden temperature changes or sharp blows.

Aluminum is less vulnerable to breakage than ceramic or glassware and heats up more quickly. However, it does not retain heat as well.

**SHELL DESIGN** — Some slow cookers have an inner vessel that is sheathed by an outer vessel or shell. The cooker that incorporates this outer sheath will have less heat loss to the surroundings, safer exterior surface temperatures and added protection during use since it cannot be knocked off the base as easily as the nonsheathed type.

The outside may be aluminum, baked enamel on steel or plastic such as Lexan.

The use of an outer container may speed or slow initial temperature increase. If there is an air cell between the heating element and the inner vessel, the rate of heating will be decreased; if the heating element is attached to the inner vessel, the rate of heating will be increased.

**A TRANSPARENT GLASS COVER** is useful in checking for the development of steam associated with cooking without taking off the cover. Cooking progress, however, is difficult to judge without lifting the lid. Lifting the cover allows moisture and heat to escape. If the cover is lifted frequently enough, the heat loss will lengthen the cooking time.

**EASE OF CLEANING** — A removable inner vessel or an immersible appliance with a detachable heat control unit makes cleaning easier. While these features add convenience, they are not essential.

**SIZE** — Slow cookers range in size from 2 to 6 quarts or more. The 3½-quart size usually is adequate for a family of four. The larger the well of the cooker, the higher the wattage required for safe cooking.

**ECONOMY OF OPERATION** — Low-wattage slow cookers are economical to operate and high-wattage slow cookers are less economical, a 1976 test has shown.\* With a setting at 350°F for 1 hour, a conventional oven used .025 cents of electricity and reached a temperature of 178°F. A low-wattage (75 to 150 watts) wrap-around-heat slow cooker in 8 hours use cost .018 to operate and temperatures of 161° and 189°F were reached in 3 and 8 hours cooking

\*Three tests completed at Colorado State University in the consumer sciences and housing department, March, 1976.

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time. A high-wattage (1,600 watts) multipurpose slow cooker/deep fat fryer for 8 hours used .031 cents of electricity and reached temperatures of 160° and 187°F after 3 and 8 hours cooking time.

**PRICES** — You will pay more for sheathed liners, immersible design, removable inner vessels, detachable heat control, larger size, higher wattage for the same design, added finishes — Teflon lining, porcelain exterior as opposed to baked-on enamel — and multipurpose of design.

**BACTERIAL SAFETY** — The temperature range that favors growth of bacteria is 40° to 140°F. The most rapid growth of bacteria takes place between 60° and 120°F. Food should remain between 60° and 120°F for no more than 2 hours, and in the entire danger zone of 40° to 140° for no longer than 3 hours. **The time food stands within the "danger zone" is cumulative.** For example, if slow heating requires 3 hours to reach 140°F, and you leave the product out at room temperature for 1 hour after it is cooked, this is comparable to 4 consecutive hours in the "danger zone."

Temperatures between 140° and 165°F stop bacterial growth and temperatures between 165° and 212°F destroy bacteria. **Slow-cooked foods (particularly meats) should remain above 165°F for at least 2 hours before serving.**

Check the cooking temperature of a slow cooker with a thermometer to make sure that it reaches safe cooking temperatures within recommended periods of time. This is important especially at high altitudes where food generally takes longer to cook. The following is a simple method for checking the cooking temperature of a slow cooker:

1. Fill the slow cooker with refrigerated water (approximately 40°F).
2. Heat the water on "low" for 8 hours.
3. Check the water temperature with an accurate cooking thermometer at the end of 3 hours and 8 hours. (Check quickly, since the temperature will drop when the lid is removed.)

For safe cooking, the temperature of the water should be above 140°F at the end of 3 hours and between 180° and 200°F at the end of 8 hours. The minimum temperature at which bacteria are killed is 165°F.

If the slow cooker does not reach these temperatures, design of the cooker, voltage variations or the cooking altitude may be to blame. The length of time the food in a slow cooker is in the danger zone can be reduced by browning or boiling the product before cooking, and by cooking the product on "high" for the first hour.

If these measures do not help, the appliance should be returned to the seller. Most slow cookers have good warranties and should be returned for repair or replacement if there are problems.

### *Safety*

To operate the slow-cooking appliance safely and correctly read and follow all directions. Do not immerse

heating unit in water. Cool the pot before moving or storing. Do not plug in except when in use.

Attach the cord to the appliance first, then plug it into an electrical outlet. Reverse the process when unplugging the appliance. Always place the pot on a dry surface away from a sink. Never handle the electric unit with wet hands or when touching a sink faucet.

Fill the slow cooker with water to loosen food particles. Never use abrasive cleaning compounds.

### *Use and Care*

There are several advantages in using a slow cooker in meal preparation:

- Constant observation during cooking is not required.
- Last minute preparation tasks usually are reduced.
- Foods can be held hot for extended periods of time without overcooking.
- Meat products generally shrink less than with conventional cooking; slow cooking is ideal for tenderizing tough cuts of meat.
- Low-wattage slow cookers usually use less electricity than ovens for comparable food preparation.

As with all methods of food preparation, there also are disadvantages:

- Low-wattage slow cookers are not suitable for broiling or browning foods.
- Milk and pasta products can be overcooked in a slow cooker.
- Slow cookers are difficult to clean if they can't be submerged in water.
- High-wattage, thermostatically controlled slow cookers may use more electricity than conventional ovens for comparable food preparation.

### *Adjusting Recipes*

You can adapt many recipes to slow-cooking methods. Compare the recipe to be adapted to a similar recipe in the appliance recipe book or instruction booklet, then prepare it in the same way, with adjustments for altitude. High altitude generally extends the cooking time one hour on low for every 1,000 feet of altitude above 4,000 feet.

Starting with warm, boiling or browned food, or cooking on "high" for the first hour also helps compensate for the slower cooking that occurs at higher altitudes.

Liquid added usually can be reduced by one-half because evaporation is minimal. Whole spices increase in flavor and ground spices decrease in flavor during long cooking periods.

Browning meat and poultry before slow cooking is not essential but it does help develop a richer flavor in the food, removes some of the fat in the product and shortens the length of time the product will take to reach safe cooking temperatures.

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